



TARLKA MATUWA PIARKU

(ABORIGINAL CORPORATION) RNTBC

Malleefowl Survey at Matuwa Indigenous Protected Area, May 2021

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Summary

A three-day survey for malleefowl presence and activity (tracks, mound building) was conducted at Matuwa Kurrara Kurrara Indigenous Protected Area in May 2021. Three Wiluna Martu Rangers together with Neil Hamilton conducted surveys along 54 km of tracks, and at two mounds. No evidence of malleefowl activity nor nesting was observed. One camera was left at a mound for photographing evidence of mound activity in future months. A chronological history of malleefowl at Matuwa, management recommendations, and a dataset summary, are included in this report.

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Context

Matuwa represents the north-eastern most known distribution of malleefowl in WA. Malleefowl have been sighted on Matuwa (ex Lorna Glen pastoral lease) over many years and even before DBCA acquired the property in 2000. Local pastoralists would sight malleefowl during their windmill runs (N Hamilton pers. comm.).

A chronology of historical observations of malleefowl at Matuwa follows:

- 2003-2019: DBCA feral cat research team recorded malleefowl tracks every year at several locations across Matuwa as part of their track activity records for feral cats.
- April 2014: A photograph was taken of one bird on a trail camera during a study on introduced predators (DBCA N Hamilton pers. observ.).
- 2015: Malleefowl sighted on a track by a trail camera between Calamity Bore and Shallow Bore (DBCA N. Burrows, Plate 1).
- 2015-2019 : Old malleefowl mounds were recorded during bird surveys (N Hamilton pers. obs.)
- 2011-2019: Two (and possibly 3) old malleefowl mounds were recorded during Simon Cherriman's Wedgetail Eagle PhD research (Plate 2).
- August 2017-Jan 2018: A breeding pair of birds built a mound and were actively using it (Plate 3), with eggs laid between 26 August 2017 to 27 January 2018 (Blythman 2021), and four chicks emerged between November 2017 and January 2018 (Blythman 2021).
- April 2018: Martu Rangers reported malleefowl tracks during 2ha plot track surveys (Fig. 1).
- Oct 2018 - June 2021: Birding groups, volunteers and caretakers revisited the previously active malleefowl mound but no birds were sighted.
- August 2019: One malleefowl track was located by DBCA during their track surveys for feral cats.

In recent years, no information on malleefowl at Matuwa has been collected nor is current breeding information known. No surveys have been conducted specifically for malleefowl at Matuwa since early 2018.

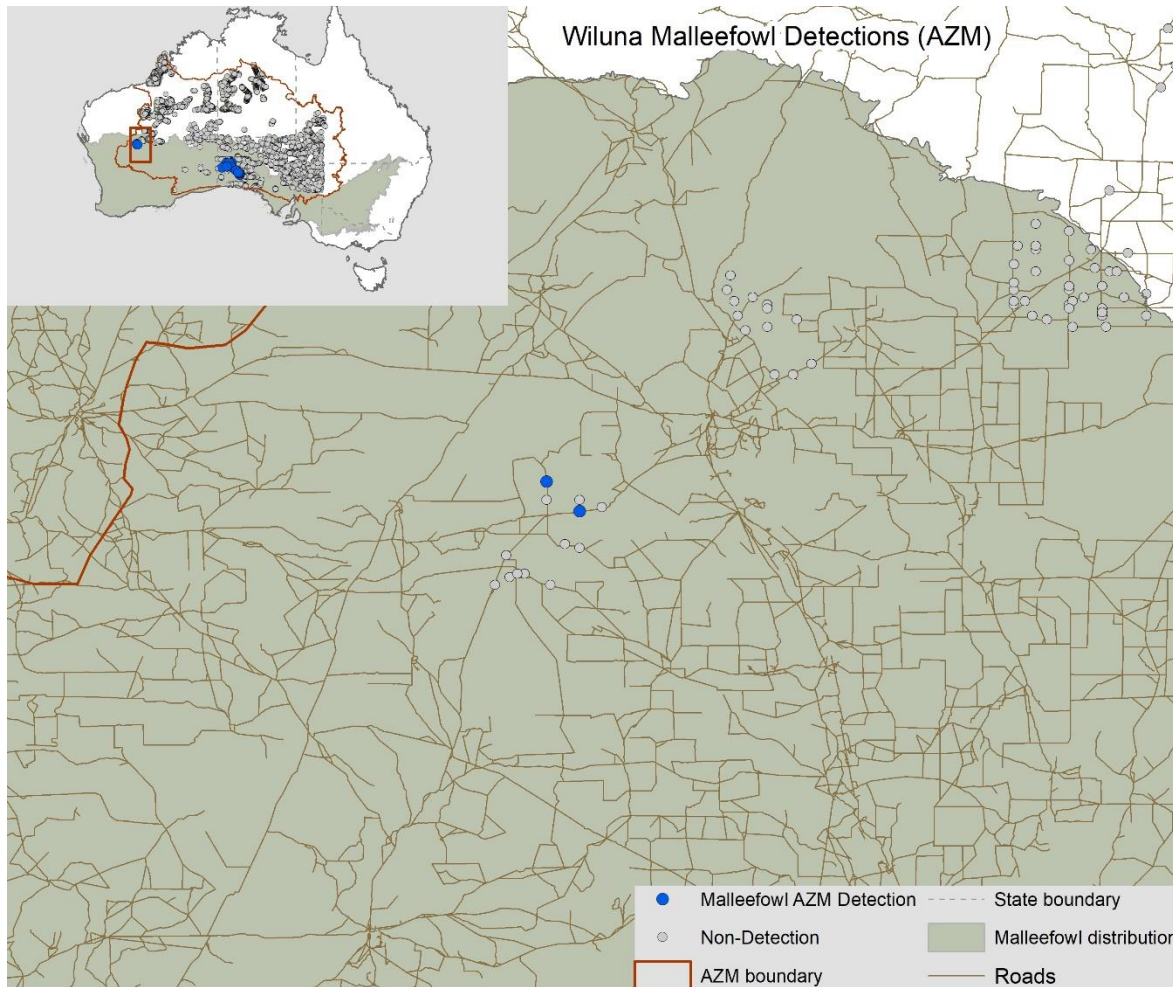


Fig. 1. Malleefowl tracks sighted during Martu Ranger track surveys in April 2018. Credit: NESP Threatened Species Hub.

Survey objectives

This survey was initiated at Matuwa to :

- a) Conduct contemporary searches for malleefowl within Matuwa Kurrara Indigenous Protected Area (IPA) using indigenous Martu Rangers implementing track searches.
- b) Where mounds are located, establish remote cameras for longer-term breeding information.
- c) Describe a forward site management plan for future malleefowl surveys and management at Matuwa and nearby areas.

The results of this pilot survey will aim to support a wider survey and study across the Wiluna Native Title area, aiming to provide recent knowledge of this species in this IPA. Information aims to record current levels of activity (track counts, mounds) including mound activity (where these are located). Remote trail cameras will be installed where there are mounds to detect breeding activities and outputs.

Searches will support indigenous Wiluna Martu Rangers (employment).

Survey approach

The survey was conducted at the Matuwa Kurrara Kurrara IPA from 17-21 May 2021.

A sand track was dragged with a vehicle and dragging rake over 25.3 km (Pen gate-Christmas creek-No2 bore) to enable fresh malleefowl tracks to be sighted (Plate 4). Track drags were along an area with good malleefowl habitat, and where birds were previously known to occur in early 2018. Surveys for tracks were conducted over three mornings.

An additional track survey was conducted by foot along a 7 km track where historical records of malleefowl prints were recorded (N Hamilton, Pers. Obser.). Searches were conducted systematically at 200m either side of the track with four people (N Hamilton and 3 Martu trackers) on one morning.

Finally a 21.8 km section of track was driven along to sight evidence of prints.

A map of the search areas is in Fig. 2.

The one mound that had been previously used by a breeding pair of birds, and observed hatching in late 2017/early 2018, was surveyed for more recent activity. One remote camera was placed at the mound and left in situ, with future plans to retrieve it later in 2021 and identify activity.

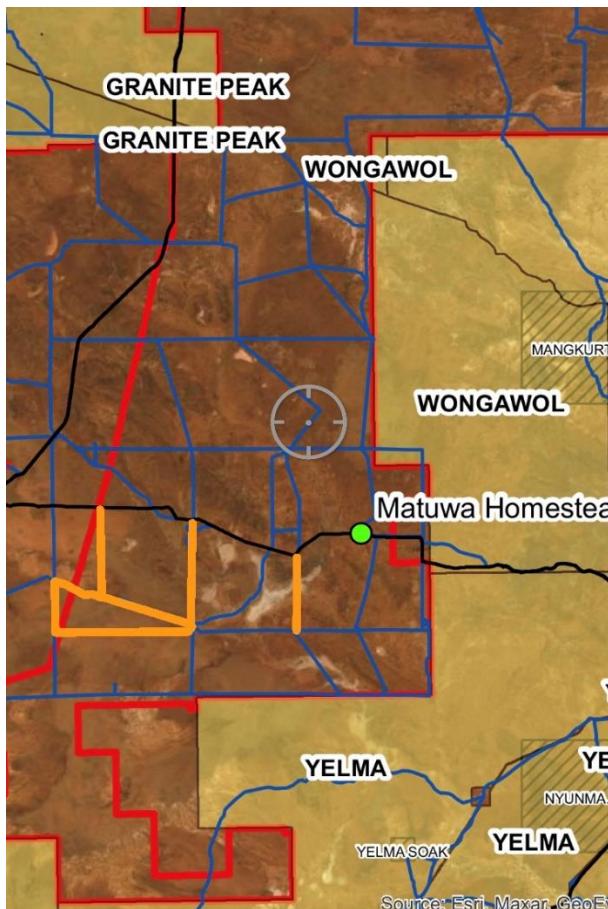


Fig. 2. Map of Matuwa showing tracks (orange) searched for malleefowl during the survey.

Results

No evidence of malleefowl tracks was found along or either side of the tracks during this survey (Fig. 3), nor at locations where this species was previously known to occur.

No evidence of recent mound activity or mound use was found (Figs 4, 5). Old eggshells were observed at the mound but their age could not be determined.



Fig 3: Martu Rangers walking the roads and bush for Malleefowl tracks May 2021 .



Fig 4: Old active Malleefowl mound at Matuwa May 2021.



Fig 5: Malleefowl eggshells collected by Martu rangers at previously active mound at Matuwa, May 2021.

Implications of survey

This survey provided no evidence that malleefowl still occur at Matuwa, based on the searched area. The last confirmed breeding and hatching of malleefowl at Matuwa were recorded in 2017/2018 (Blythman 2021), however tracks have been sighted as recently as 2019. It is unknown if the tracks sighted reflect one bird or a pair.

Subsequent track surveys in June 2021 over a wider area for feral cat activity by DBCA in June 2021 have reported no evidence of malleefowl prints over a five day period (N Hamilton pers obs.).

Forward management program

It remains unclear whether malleefowl persist at Matuwa. Additional targeted surveys elsewhere in Matuwa where there is suitable habitat for malleefowl, or alternative management options (below), may be warranted to improve our knowledge or occurrence of malleefowl at Matuwa.

Breeding at Matuwa

A camera left at the single malleefowl mound will require regular checking over the forthcoming year (typically March-January period) to confirm whether malleefowl are still using the known mound used in 2017/2018.

Translocation considerations

There is good habitat to support malleefowl in the south south-east of Matuwa with suitable mulga and understorey, and conducive to malleefowl nesting. If this species is indeed in low numbers across the IPA, or absent, there is scope to consider a future reintroduction (or supplementation should birds still be present) of this species into the IPA under a managed translocation program. Matuwa is managed to reduce feral cat and wild dog densities with an annual baiting exercise under the DBCA Western Shield Program, so the potential to return this threatened species to this area, or increase their numbers, remains an option worthy of future consideration.

Other survey locations

Circumstantial stories from Martu suggest that malleefowl occur at a pastoral lease in the south-west of the Wiluna Native Title Area (Ullala Station). There is scope to undertake future surveys at Ullala lease (with permissions) to confirm the presence and possible breeding of malleefowl there.

Two-way Science

Finally, malleefowl surveys of mounds (used or disused) and track surveys provide an excellent opportunity to bridge Ranger work with the School Two-way Science Initiative. Scope to

implement these two activities at Wiluna offers a useful approach to broaden the education of malleefowl as a threatened species to the younger generation of 'Rangers' at the school in Wiluna, with intergenerational learning from the bush classroom supported by the cultural (Wiluna Martu Rangers) educators. Learning about this threatened species can be extended into future trips on Country.

Acknowledgements

This survey was made possible with the support of Rangelands NRM funding, with permissions and support of TMPAC as the Prescribed Body Corporate, and the Wiluna Martu Rangers who support the Ranger Program and the field tracking exercise of the work program. Simon Cherriman is thanked for provision of an aerial map indicating locations and numbers of old malleefowl mounds.

References

Blythman M (2021). Predicting the hatching date of Malleefowl *Leipoa ocellata* eggs without excavating the mound. *Australian Field Ornithology* 38: 78–86.

Appendix

Plate 1. Malleefowl sighted between Calamity Bore and Shallow Bore, Matuwa in 2015 (Credit: N burrows/DBCA)



Plate 2: Old historical Malleefowl Mounds located on Matuwa during surveys of wedge-tailed eagles (Credit: S Cherriman).



Plate 3: Pair of Malleefowl working the active mound at Matuwa in October 2017 (Credit: N Hamilton).



Plate 4: Malleefowl tracks have been sighted at Matuwa since 2003 (Credit N Hamilton/DBCA).



Matuwa Kurrara Kurrara IPA data set summary

1. Dataset title	TMPAC Malleefowl Project
Background	
2. Project ID	PJ20405
3. Project name	Malleefowl Survey at Matuwa
4. What program does this dataset relate to?	Malleefowl
Dataset description	
5. What program outcome does this dataset relate to?	<ul style="list-style-type: none"> a) Contemporary searches for malleefowl within Matuwa Kurrara Kurrara Indigenous Protected Area (IPA) using indigenous Rangers and implementing track searches. b) Set up remote camera for longer-term breeding information. c) Forward site management plan for future malleefowl surveys and management at Matuwa and nearby areas.
6. What primary or secondary investment priorities or assets does this dataset relate to?	Expanded surveys beyond Matuwa IPA
7. Is this data being collected for reporting against short or medium term outcome statements?	Yes (medium-pilot survey for current status).
8. Is this (a) a baseline dataset associated with a project outcome i.e. against which, change will be measured, (b) a project progress dataset that is tracking change against an established project baseline dataset or (c) a standalone, foundational dataset to inform future management interventions?	a
9. What types of measurements or observations does the dataset include? To select more than one answer, hold down the 'CTRL' button whilst selecting an option from the drop-down list	<ul style="list-style-type: none"> Abundance Adoption – climate and market demands Adoption – land resource management practices Awareness, knowledge, skills, confidence Basal Area Coarse woody debris Condition Fauna – invertebrate Fauna – vertebrate Fire Flora Genetic diversity Groundcover Habitat condition

	<ul style="list-style-type: none"> Interventions Opportune records Other Participation Publication of materials Recruitment – fauna, flora Site description Soil composition Soil erosion Targeted – feral animals Targeted – threatened sp Targeted – weeds Water Quality
Dataset collection	
<p>10. Identify the method(s) used to collect the data. To select more than one answer, hold down the 'CTRL' button whilst selecting an option from the drop-down list</p>	<ul style="list-style-type: none"> Genetic sampling Hair, track, dung sampling Area sampling Water quality sampling Active searching Aerial photography Call playback Camera trapping Data extraction Distance sampling Grab sampling Habitat condition assessment Mark-recapture Meta-analysis Other Photopoints Plotless sampling Quadrat sampling Participant survey Soil sampling and analysis Surber sampling Surveying – fauna, flora Transect sampling Trapping Vegetation mapping Ground cover monitoring
<p>11. Describe the method used to collect the data in detail.</p>	<ul style="list-style-type: none"> Track surveys (total approx. 54 km tracks) Mound searches Remote camera at mound (future evidence of mound attendance and use)
<p>12. Identify any apps used during data collection.</p>	<ul style="list-style-type: none"> Avenza mapping

13. Provide a coordinate centroid for the area surveyed. (For biophysical/ecological surveys where an app was not used, and where there are no sensitivities in providing a location).	26.252571 E 121.413979S
14. First collection date.	17/05/2021
15. Last collection date.	21/05/2021 + ongoing for camera
16. Is this data an addition to existing time-series data collected as part of a previous project, or is being collected as part of a broader/national dataset?	Pilot project. Possibility for ongoing at Matuwa IPA. If breeding occurs, options for inclusion in national malleefowl dataset.
Data accessibility	
17. Who developed/collated the dataset?	TMPAC and Neil Hamilton with Rangers
18. Has a quality assurance check been undertaken on the data?	Yes in consultation w Neil Hamilton
19. Has the data contributed to a publication?	No
20. Where is the data held?	Final Report to RNRM
21. For all public datasets, please provide the published location. If stored internally by your organisation, write 'stored internally'.	Stored internally
22. What format is the dataset?	Word document
23. Are there any sensitivities in the dataset?	No Indigenous/cultural Commercially sensitive Ecologically sensitive Personally identifiable info Legally sensitive Other
24. Primary source of data (organisation or individual that owns or maintains the dataset) Please include the contact name, physical address, email address and phone number where possible	TMPAC Contact: Environment manager on environment@tmpac.com.au Ph 0434 8576 536
25. Dataset custodian (name of contact to obtain access to dataset) Please include the contact name, physical address, email address and phone number where possible	Contact: Environment manager on environment@tmpac.com.au Ph 0434 8576 536